

WHAT IS CLAIMED IS:

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1. A method of recording eccentricity correction data for position control over a recording and reproducing head on a disk-shaped recording medium having at least one user data recording area to record user data, the method comprising the step of:  
recording the eccentricity correction data in a user data recording area.

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2. The method as claimed in claim 1, wherein the eccentricity correction data are recorded for all cylinders of the disk-shaped recording medium.

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3. The method as claimed in claim 1, wherein the eccentricity correction data are recorded in only predetermined one or more cylinders of the disk-shaped recording medium.

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4. The method as claimed in claim 1, wherein the eccentricity correction data are recorded as initial eccentricity correction data, and the initial eccentricity correction data are

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updated as needed during an operation on the disk-shaped recording medium.

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5. The method as claimed in claim 1, wherein the eccentricity correction data are recorded for each frequency component individually.

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6. The method as claimed in claim 1, wherein the eccentricity correction data are recorded in one or more sectors for each cylinder.

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7. The method as claimed in claim 1, wherein the eccentricity correction data are recorded for each cylinder, and the eccentricity correction data comprise at least one of eccentricity correction data on the cylinder and eccentricity correction data on a next cylinder recorded next to the cylinder in accordance with a sequential recording manner.

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8. The method as claimed in claim 1, wherein the eccentricity correction data are recorded in a center area of each cylinder.

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9. A disk-shaped recording medium having  
at least one user data recording area to record user  
5 data, comprising:

eccentricity correction data being  
recorded in a user data recording area.

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10. The disk-shaped recording medium as  
claimed in claim 9, wherein the eccentricity  
correction data are recorded in all cylinders of the  
15 disk-shaped recording medium.

20 11. The disk-shaped recording medium as  
claimed in claim 9, wherein the eccentricity  
correction data are recorded in only predetermined  
one or more cylinders of the disk-shaped recording  
medium.

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12. The disk-shaped recording medium as  
30 claimed in claim 9, wherein the eccentricity  
correction data are recorded as initial eccentricity  
correction data, and the initial eccentricity  
correction data are updated as needed during an  
operation on the disk-shaped recording medium.

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13. The disk-shaped recording medium as  
claimed in claim 9, wherein the eccentricity  
correction data are recorded for each frequency  
5 component individually.

10 14. The disk-shaped recording medium as  
claimed in claim 9, wherein the eccentricity  
correction data are recorded in one or more sectors  
for each cylinder.

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15. The disk-shaped recording medium as  
claimed in claim 9, wherein the eccentricity  
20 correction data are recorded for each cylinder, and  
the eccentricity correction data comprise at least  
one of eccentricity correction data on the cylinder  
and eccentricity correction data on a next cylinder  
recorded next to the cylinder in accordance with a  
25 sequential recording manner.

30 16. The disk-shaped recording medium as  
claimed in claim 9, wherein the eccentricity  
correction data are recorded in a center area of  
each cylinder.

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17. A method of controlling a position of  
a recording and reproducing head on a disk-shaped  
recording medium having at least one user data  
recording area to record user data, the method  
5 comprising the step of:

controlling the position of the recording  
and reproducing head based on eccentricity  
correction data recorded in a user data recording  
area.  
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18. The method as claimed in claim 17,  
15 wherein the eccentricity correction data are  
recorded in all cylinders of the disk-shaped  
recording medium.

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19. The disk-shaped recording medium as  
claimed in claim 17, wherein the eccentricity  
correction data are recorded in only predetermined  
25 one or more cylinders of the disk-shaped recording  
medium.

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20. An information recording and  
reproducing apparatus, comprising:

a disk-shaped recording medium having at  
least one user data recording area to record user  
35 data, the disk-shaped recording medium comprising  
eccentricity correction data being recorded in a  
user data recording area.